SMART VILLAGES
New thinking for off-grid communities worldwide

Southeast Asia Media Dialogue: Seoul Workshop Report

Workshop Report 6

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Smart Villages

We aim to provide policy makers, donors and development agencies concerned with rural energy access with new insights on the real barriers to energy access in villages in developing countries - technological, financial and political - and how they can be overcome. We have chosen to focus on remote off-grid villages, where local solutions (home- or institution-based systems, and mini-grids) are both more realistic and cheaper than national grid extension. Our concern is to ensure that energy access results in development and the creation of 'smart villages' in which many of the benefits of life in modern societies are available to rural communities.

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MALAYSIAN COMMONWEALTH STUDIES CENTRE

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1. Introduction

More than one billion people in the world still do not have electricity. Over three billion cook on dirty, inefficient and harmful stoves and four million people die prematurely each year as a result. The UN's Sustainable Energy for All (SE4All) initiative aims to achieve universal access to modern energy services by 2030. The Smart Villages Initiative aims to contribute to meeting this goal by providing an insightful 'view from the front line' of the challenges of village energy provision for development and how they can be overcome.

Smart villages are proposed as a rural analogue to smart cities that will shift the balance of opportunities between cities and villages. While we may expect that their particular features will be context specific, common features will include access to good education and healthcare, better opportunities to earn a living, greater participation in governance processes, and more resilient communities. All these development benefits are enabled by energy access together with modern information and communication technologies.

The Smart Villages Initiative is evaluating the barriers to energy access in rural communities in developing countries and how those barriers can be overcome. Its focus is off-grid villages, where local solutions (home- or institution-based systems, and mini-grids) are cheaper than national grid extension. Its aim is to generate new insights to inform the decisions and programmes of policy makers, donors and development agencies concerned with rural energy access for development.

As an integral part of that activity the Smart Villages Initiative aims to raise public awareness of rural energy access issues, sustainable energy technologies and entrepreneurial approaches to energy in the developing world. To help meet this goal, we seek to promote objective, informed and balanced coverage of the issues, challenges and opportunities through media dialogue events in both local and international media. In this way we hope the main stakeholders—including policy makers, funders, entrepreneurs, civil society and the general public, including potential smart villagers themselves—will be made aware of the potential of off-grid rural energy provision, and provided with appropriate information to permit informed discussion of the issue. We are targeting high profile international media outlets as well as the mainstream media organisations in countries where rural energy access is important.

By holding these regional media dialogue events, we hope to gain insights from local journalists themselves as well as introducing or updating them with some of the latest technological innovations in the area, together with the regulatory, finance and entrepreneurship/business challenges and opportunities which apply in their region. In this manner we hope to encourage a greater

"We seek to promote objective, informed and balanced coverage of the issues.

Anna Valermo, SciDev.Net, The Philippines

focus on this complex area, which necessarily involves elements of technology, business, politics and rural development at the same time. An area which—despite its importance in terms of the magnitude of the affected populations—has hitherto not been a mainstream media priority.

This approach derives, in part, from the successful Biosciences for Farming in America project (b4fa.org), funded by the John Templeton Foundation, which worked with local media organisations in Africa to encourage high-quality reporting of scientific and technical development issues through a combination of dialogue workshops, field trips and networking within the research community.

This second workshop was planned over two days in June 2015 in Seoul, Republic of Korea to coincide with the city hosting the World Conference of Science Journalists (WCSJ). It featured a mixture of background briefings and case studies by local and international technical experts. The programme also included interactive discussions and professional development exercises, facilitated by independent media trainers and mentors. The workshop went on to feature case studies of prototype smart villages and innovative renewable energy use by several of the participating journalists.

2. Participation

In our selection process we sought to identify journalists from countries in the region— Malaysia, Philippines, Myanmar, Thailand, Vietnam and Indonesia—who would take an interest in both energy provision in general and Smart Villages in particular. We selected especially those journalists—from print, broadcast and new media—who showed an interest in energy, science and technology or development reporting, to the extent that journalists are able to specialise in a particular subject specialism or 'beat' by their editors. In addition to WCSJ and SciDev.Net, we took recommendations from local partner organisations in the countries and by research into the historical published portfolios of the candidates.

Interest was high and we were able to interact with 10 journalists from Myanmar, Philippines, Indonesia, Malaysia, Singapore, Vietnam and a South East Asia correspondent based in the US, providing a good cross-section of the region's journalistic community, although we did not have representatives from Thailand, Laos or Cambodia. For continuity and to help foster an international network of Smart Village journalists, two African journalists who had attended the Rwanda workshop and written on the topics were also invited. The Smart Villages Initiative provided travel, accommodation and expenses for those who participated.

Participants

Joel Adriano

Joel Adriano is Southeast Asia and the Pacific Coordinator of London-based SciDev.Net. He is an award-winning freelance science journalist based in the Philippines and an experienced consultant on science, agriculture, environment and education. He has been involved in various projects for the World Bank, USAID, ADB and UNICEF.

Lominda Afedraru

Lominda is a science journalist based in Uganda. She has been working as a reporter at a local newspaper, the Daily Monitor, owned by Monitor Publications Ltd for the last seven years. Many of Lominda's articles have been published on websites that syndicate from the paper. Apart from science reporting Lominda also covers legal reporting.

Fatima Arkin

Fatima Arkin is a freelance journalist who splits her time between the Philippines and Canada. She has written for various international media outlets, including SciDev.Net, Foreign Policy, The National and many others. She writes frequently on science related topics and is particularly interested in natural disasters, climate change and disease outbreaks. She covered super typhoon Haiyan, which ravaged the central Philippines in 2013 and the recent MERS outbreak in South Korea. Fatima holds a bachelor's in history and international development from McGill University in Montreal, Canada and a graduate diploma in journalism from Concordia University, also located in Montreal.

Lotuslei Dimagiba

Lotuslei is a writer who studied B.A Communication Arts major in Writing at the University of the Philippines, Los Baños. Previously, she was a student assistant at the Office of Public Relations at the same university, and an intern at SciDev.Net. After graduating, she continued working at SciDev.Net as a technical assistant and freelance journalist. She is currently engaged with the Science and Technology Information Institute of the Department of Science and Technology as an information officer.

Natalie Heng

Natalie Heng is currently an assistant producer at BFM radio in Malaysia, and freelances for the science and development news portal SciDev.Net.

She spent four years writing feature articles for Malaysian-based daily The Star, covering a diverse range of topics related to the environment, science, and the arts. She cut her teeth in the newsroom at the Sun daily in Malaysia. She received an honourable mention for her feature piece "Shrinking Refuge" in the Prime Minister's Hibiscus Award for Environmental Journalism, and was a nominee for Best Reporter by the National Press Cub K & N Kenanga Award. Natalie holds a bachelor's degree in Biology from Imperial College.

Nantin Htwe

Nan has worked for international news agency Agence France-Presse as a correspondent for over than one year. Before that Nan worked for The Myanmar Times, a bilingual weekly newspaper focusing on politics, conflicts and ethnic issues as senior reporter.

Mike Ives

Mike is a journalist and a regular contributor to The New York Times, The Economist and other publications, websites and radio programmes. He lives in Hanoi.

Abdallah el Kurebe

Abdallah is Regional Editor of Newswatch, Nigeria and freelances for NewsDiaryOnline. Abdallah is an award winning (Best Body of Work, In-Depth Coverage) Media Fellow of Biosciences for Farming in Africa (B4FA) and coordinates the African Journalists Network For Agriculture (AJNA). He has written for publications including the New Nigerian newspaper, Triumph newspaper, Hotline Magazine, Horizon Magazine, National Echoes Magazine, Just News magazine, Spotlight Magazine, PeopleMonthly Magazine, Companion newspaper, The Road newspapers, National Trail newspapers and Vanguard newspaper.

Yao-Hua Law

Yao-Hua is a freelance science writer and radio show producer based in Kuala Lumpur, Malaysia. He studied insect behaviour for his Ph.D. (University of California-Davis) and taught in Universiti Putra Malaysia for three years. He has been writing for almost two years covering research in ecology, conservation and health. Yao-Hua has published in Discover Magazine, SciDev.Net, PopSci.com, The Scientist and Cosmos Magazine. He produces shows on health and science for the Malaysian business radio station, BFM89.9. Yao-Hua won First Prize in the Asian Scientist Writing Prize 2015 for a story on asbestos.

Dr Chong Eng Tan

Chong Eng, Tan is an associate professor at the Faculty of Computer Science and Information Technology. He received the PhD degree from the University of Cambridge, UK in 2004, where he researched throughput and performance improvement techniques applicable to OFDM based fixed broadband wireless access systems, the MEng. and BEng. degrees from Universiti Malaysia Sarawak in 1999 and 1998. He has more than 12 years experience in wireless networks and data communication related research. He serves as the head of department for department of computer systems and communication technologies since 2006, head of telecommunication research group in the Centre of Excellence for Rural Informatics, and research fellow to the Centre of Excellence for Image Analysis and Spatial Technologies. He is a member of the Institute of Electrical and Electronics Engineers (IEEE) and the Institution of Engineers, Malaysia (IEM). His current research interests include: Broadband Networks, Ad hoc Networks, Wireless Sensor Networks, AI for communications and Green Computing Architecture.

Nan Thiri Lwin

Nan has been a journalist in Myanmar for almost seven years, covering stories about Kachin conflict and ethnic affairs, Rakhine state violence, land grabbing issues, opium cultivation and trading, logging and wildlife trading. Her stories have appeared in The Myanmar Times, The Irrawaddy Magazine and The Messenger News Journal.

Eight months after Nan became a reporter, she was given one of the first interviews with newly released political prisoner and Nobel Laureate, Aung San Su Kyi. She currently works for Internews Myanmar—a non-profit organization supporting local journalists and news media—as a Programme Manager. She also organises forums and journalism trainings related to peace and conflicts and networking with regional media network and Civil Society Organizations for program development.

Maureen Rouhi

Maureen Rouhi is Director of Editorial and Business Development at C&EN Asia. Rouhi has B.S. and M.S. degrees in agricultural chemistry from the University of the Philippines, Los Baños, and a Ph.D. from the University of London. She began her scholarly publications career as a copy-editor trainee at the American Society for Microbiology. In 1987 she joined the American Chemical Society (ACS), where she has worked ever since, except for an 11-month detour to the American Pharmaceutical Association (now the American Pharmacists Association), where she served as managing editor of the Journal of Pharmaceutical Sciences.

Sharon Schmickle

Sharon has been a journalist for MinnPost.com since 2007. Before that she worked for the Minneapolis Star Tribune where she reported from the paper's Washington bureau and covered wars in Iraq and Afghanistan. Her awards include being a finalist for the Pulitzer Prize, National Press Club's Washington Correspondent of the Year, and has received an Overseas Press Club of America's.award. She has taught writing and journalism at Macalester College, the University of St. Thomas and the University of Minnesota's Humphrey Institute. Since 2011, she also has worked as a journalism mentor in Ghana, Nigeria, Uganda and Tanzania. She is a graduate from the University of Minnesota's School of Journalism and she was a Templeton-Cambridge Fellow in science and religion at Cambridge University.

Anna Valermo

Anna Valmero is a regular contributor with SciDev.Net since 2013 and has been writing about science and development stories in the Southeast Asia and Pacific region. Outside her primary work, she volunteers in managing projects and mentoring young journalists on multimedia production for international media events such as heading the Orange Magazine coverage of the 2015 Deutsche Welle Global Media Forum in Bonn.

Julia Vitullo-Martin

Julia is a New York-based independent journalist who is a senior fellow at Columbia University's Center for Urban Real Estate, and also director of the Center for Urban Innovation at the Regional Plan Association. Her work focuses on development issues such as comparative economic analysis, planning and zoning, waterfront development, public housing, environmental review, and historic preservation and design. Vitullo-Martin has been widely published in a variety of newspapers and magazines, including the Wall Street Journal, the New York Times, the New York Review of Books, the New York Post, the New York Daily News, Monocle, Forbes, and Fortune, as well as academic journals. She has authored and edited three books, including Breaking Away: The Future of Cities (Century Foundation Press, 1996). She served as co-director of the Templeton-Cambridge Journalism Fellowships at the University of Cambridge from 2003 through 2011.

Dr. Alvin Yeo

Dr. Alvin W. Yeo is the Director of the Institute of Social Informatics and Technological Innovations (ISITI-CoERI) and an Associate Professor at the Faculty of Computer Science and Information Technology, Universiti Malaysia Sarawak (UNIMAS). He has expertise in the area of Information and Communications Technology for Rural Development (ICT4RD). Alvin has published in The Encyclopaedia of Developing Regional Communities with ICT, evaluated

Smart Vilalges Southeast Asia Media Dialogue Workshop Participants

Malaysian federal-funded ICT4RD initiatives, and worked with United Nations Economic and Social Commission for the Asia Pacific (UNESCAP). Alvin has been involved in the eBario Project which garnered numerous awards including the Commonwealth CAPAM Innovation award which beat 112 international submissions worldwide.

Smart Village Initiative Team

Claudia Canales

Claudia is based in Oxford. Her training includes a first degree in Environmental Biology from the University of Reading and a DPhil in Plant Sciences from the University in Oxford. She has a near-decade experience in plant sciences research, and five years experience in science communication and technology transfer initiatives in Asian and Sub-Saharan African countries.

Terry van Gevelt

Terry is based at the Centre of Development Studies, University of Cambridge where he is an applied economist with research interests in rural electrification and development. Previously, Terry has consulted for the World Bank and has been a visiting scholar at the Korea Rural Economic Institute. He holds a BSc (Hons) from the Department of Economics, University of Warwick and MPhil and PhD degrees from the Centre of Development Studies, University of Cambridge.

Richard Hayhurst

Richard is communications director for the Smart Villages Initiative. He has been involved in science and healthcare communications for over thirty years, having established and sold several leading agencies. He has worked internationally with clients across the spectrum, from early-stage biotechs to multinationals, the EU, countries, academic institutes and NGOs, formulating communication strategies for topics such as cloning, stem cell research, agbio, genetic testing, vaccines, HIV, renewable energy and nanotechnology. Richard has degree in modern history from the University of St Andrews.

Meredith Thomas

Meredith works as communications officer for Smart Villages. He undertook a master's degree in biomedical engineering at Imperial College before going on to study science communication. He has worked as a writer for the Wellcome Trust and the Observer.

3. Workshop Summary

The workshop was held over two days with a comprehensive and varied programme of presentations, group discussions and breakout sessions. These are summarised below with copies of presentations accessible on the Smart Villages website (www.e4sv.org.)

Day 1

Welcome and Workshop Aims

Richard Hayhurst, Smart Villages Initiative

In giving the context of the overall initiative, Richard stated how Smart Villages is a 3-year project with related activities in 5 regions—W&E Africa, SE Asia, India, South America. He explained that the Smart Villages Initiative is being undertaken by a project team based mainly at Cambridge and Oxford Universities, working in collaboration with the national science academies and their networks, and with two organisations with extensive hands-on experience of village energy projects for development: Practical Action and The Energy and Resources Institute (TERI). Following a preparatory phase lasting two years, the three-year project commenced in October 2014.

He described how Smart Villages is investigating the possibility of providing sustainable off grid energy to rural communities and the potential impact. Richard emphasized that the project was also taking a unique bottom up approach—listening to ambitions, mapping on-ground initiatives, matching with general progress, leading to policy advice at national and international level. The idea of the workshop, he revealed, was to give journalists background on the project and also off-grid renewable energy in general. He stressed that in his opinion the timing was particularly appropriate, since the recent conferences he had attended with other members of the team in New York (SE4ALL) and Vienna (Vienna Energy Forum) pointed to renewable off-grid energy provision being a key issue in upcoming COP21 talks in Paris.

Richard Hayhurst, Smart Villages Initiative

Welcoming the journalists, he promised them some new thinking around these issues which they were best placed to spread though their work. Stressing that he valued their insights, independence and individuality, he hoped that the workshop would provide inspiration, context, case studies and contacts to enable them to follow the project over the next 2.5 years. As for the actual format, this was to be a mix of presentations, case studies, exercises and discussion. He hoped this would be interactive and that as well as resulting in this report and a network, would give them sufficient ideas and inspiration to produce stories from a variety angles. Just a few examples were:

- COP21 Paris
- Launch of new Sustainable Development Goals
- Local off-grid situation in their own countries
- How technology leapfrogging could benefit rural development
- Examples of 'proto' Smart Villages in their own areas.

Finishing with a *tour de table* with each journalist giving their background and expectations from the workshop, Richard was followed by Dr Terry van Gevelt

The Smart Villages Concept

Dr Terry van Gevelt, Smart Villages Initiative

Dr van Gevelt started by repeating the Smart Village Initiative's professed aim to discover whether Smart Villages could be created as an analogy to the well known concept of Smart Cities and possibly redress the balance of opportunities between cities and villages. Whilst the particular features of any one village will be context specific, he explained, common features should include access to good education and healthcare, better opportunities to earn a living, greater participation in governance processes, and more resilient communities.

He also stated his belief that with the new SDGs and COP21 pending and continuing controversy about both the role and value of renewable energy and idea of energy access for all, there is a pressing impetus to the project.

Despite growing urbanisation, 47% of the world's population and 70% of the world's poor still live in rural areas. One of the key indicators of this poverty is lack of power and electricity. It is estimated than 1.3 billion people—around a fifth of the world's population—have no access to electricity and over these the overwhelming majority 85% again live in rural areas. In addition, more than 3 billion are under-served with modern energy, being forced to cook on dangerous and inefficient stoves and open fires. Dr van Gevelt put forward the premise that until such communities have access to modern energy services, little progress can be made to develop their economies and improve their lives. This he backed with OECD data linking electricity access with significant improvements in such indicators as the Human Development Index, Educational Attainment and Maternal and Infant Health.

To further illustrate the impact of electrification, Dr van Gevelt then used the local example of Korea. The Saemaul Undong (New Village movement) is, he noted, arguably the most successful example of a modern integrated rural development strategy. A top-down and bottom-up approach that balanced local control and participation with central government control, Saemaul Undong succeeded in moving Korea from 12% to 98% rural electrification over the period 1964–79. This resulted in growth of household income from USD 249 in 1970 to USD2172 in 1979. During the case study, Terry skilfully interwove personal memories from villagers of the impact of electrification with more statistics on penetration of new electrical appliances.

He then widened the presentation out again to show that, in general, grid extension has kept pace with population growth, although their remains a gap that all projections show cannot be closed without wider implementation of mini-grid and household solutions.

Dr van Gevelt ran through the various technology solutions currently available— namely home solutions and mini-grids. Household solutions he said, start with USD10–100 pico systems which provide 0.1–10 W for lighting, radio reception and mobile charging. They can be solar, wind or hydro powered and are usually on a pay as you go basis. The next levels are standard home solutions costing up to USD 1000 providing from 10– 1000W and enabling households to start powering fans, TVs and other appliances. Finally come mini-grids generating 1–1000kW, usually working off a combination of solar, diesel, biomass, hydro and wind to enable community wide access. Dr van Gevelt then looked at paths to adoption, showing that population density is key to mini-grids bringing down the cost of electricity to consumers compared to home systems. He proposed that the ideal situation for villages, which often tend to be "stretched out", is a hub and spoke model; with mini-grids at the core and home systems in more outlying households.

Whether electrification does indeed lead to benefits was the next topic. Starting with positive affirmations from leading economists Spencer and Cottrell, Dr van Gevelt also leaned on the Korean experience to claim that electrification does indeed bring a range of integrated and interdependent benefits in namely food security, democratic engagement, health and welfare, education and local business. Focussing on agriculture in particular, he noted that it enabled, for example, electricity-powered processing and nurturing seedlings in greenhouses. Television programs for farmers both increased knowledge and business awareness, leading to diversified crop portfolios, including new higher value cash crops. Larger-scale ranch management for livestock was also possible. Overall this meant that farmers could respond successfully to urban demand with a cooperative based market structure. Rural industry benefited with companies springing up to manufacture light industrial goods for export and domestic markets including food processing, textiles, leather products, wigs, furniture, paper products, chemicals, ceramics, electronics and machine parts. Summing up the Korean experience, Dr van Gevelt gave a hint of an important topic that would recur through the workshop—metrics.

Dr van Gevelt summarised his thoughts with a graph showing energy as the central pillar of rural development surrounded by six others—infrastructure, education, health, champions, entrepreneurs and market structuring. These other pillars were to be the subject of further presentations during the session.

Returning to Smart Villages, Dr van Gevelt explained that our focus is primarily on micro-grid and home-based solutions. While this workshop was looking at electricity, he stressed future workshops will also consider heating and cooking using other energy sources. He repeated that our output will be advice to policy makers, funding bodies and key stakeholders: national / regional / global—including the EU and UN. The policy advice aims to be a unique insightful, 'view from the frontline' of the challenges of and barriers to village energy provision for development, and how they can be overcome. This is ensured by bringing together the key players: villagers, entrepreneurs, academics, NGO's, financiers, regulators and policy makers etc.

Dr van Gevelt then encouraged the journalists to look at our full range of activities as sources for stories—six international workshops, regional engagement activities, forward looking workshops, entrepreneurial competitions, case studies, impact evaluations, technical reports,

policy briefs, expert assay collections and our final workshops. The presentation was well received and immediately stimulated a lively discussion on whether villages did indeed have a future, with the journalists intrigued to hear the Smart Villages' arguments.

Group Discussion: Taking Energy for Granted

Facilitator: Richard Hayhurst, Smart Villages Initiative

After the introductory presentations, workshop participants were asked to imagine what life in an off-grid village under situations of energy-poverty is like for rural populations. The issue turned out to be one that was easy for most participants to relate to. Whilst they all lived in cities, many of them had relatives living in or had visited remote, off-grid villages either on the mainland as in the case of Myanmar and Vietnam or for those from Philippines, Indonesia and Malaysia in the thousands of islands in each country. The extreme weather in the region leading to frequent power disruption also gave the journalists some idea of the issues we were discussing. However, it took the intervention of our African journalists to help them really imagine a world without electricity. Nevertheless, it was already clear that on the whole they were amazed at the scale of the problem, the sheer number of people without electricity and fascinated by the potential of renewable energy technology and technology leapfrogging to provide solutions.

Proto-Smart Villages: Terrat, Tanzania

To help the journalists realise that Smart Villages could become reality, the next item on the agenda was a video presentation of the Terrat village in Tanzania which the team had visited on the first Smart Villages workshop in 2014. Terrat lies some 80 km from the nearest grid connection in Arusha and is at the centre of the Maasai territory. The video showed how under the leadership of village elder Martin Saning'o the community had set up the Institute for Okonerei Pastoralists Advancement (IOPA) to implement off-grid electricity projects. This has led the village to build a 300 kW diesel-generating plant, fuelled by biofuel from jatropha and proton, that in turn supports a mini-grid supplying over 100 households, a radio station, a dairy, a village training and social centre, and several small shops and workshops. The video showed how the social impacts have included improved health and new opportunities for income generation, giving villagers reasons to continue to reside in the village. The video provoked a great deal of discussion, particularly since it illustrated a central tenet of Smart Villages, namely that a bottom-up approach is essential when promoting their potential development, taking into account the real ambitions and motivations of villagers and utilising indigenous skills and experience.

ICT as a Pillar of Development in Remote Rural Communities

Dr Alvin Yeo Wee, UNIMAS

Picking up on Terry van Gevelt's point on pillars of development and reinforcing the message of Terrat, Dr Alvin Yeo Wee of Universiti Malaysia Sarawak (UNIMAS) was invited to give a presentation to the journalists on the "ground rules" for using ICT to support socio-economic development in remote Borneo communities. Dr Yeo is Director of the Univerisity's Institute of Social Informatics and Technological Innovations (ISITI), a ground-breaking multidisciplinary unit aiming to first define the extent to which contemporary ICT could deliver sustainable social and economic development to remote rural communities, and then put resulting ideas into practice. Research is performed in 'living lab telecentres' as Dr Yeo's photos showed extremely remote locations, which may require days and weeks of travel over forest trails and boat. For the presentation Dr Yeo focused on Long Lamai, which

he was happy to promote as a "Smart Village" since it already has had a telecentre with integrated ICT systems for five years. The villagers have been operating the telecentre since its establishment, and it has had a major impact on their lives, increasing ICT literacy and providing a window to the world. Economically it has acted as a catalyst for knowledge transfer, resulting in a responsible rural eco-tourism effort bringing in a sustainable source of alternative income. An e-commerce website is in the offing to help organise both home stays and sales of handicrafts. In particular, Dr Yeo noted that using ICT has helped the villagers in avoiding the common pitfall of underselling their produce and instead create a high value brand for their rattan handicrafts.

Regarding the impact of ICT on education and social cohesion, Dr Yeo then quoted Long Lamai headman Wilson Bian, who said that ICT has provided a lifeline to Penan children and opened their eyes to the world. However, rather than fear this impact, Wilson believed that working with institutes such as ISITI ensures that this impact can be managed in a positive way. One fascinating example was the way in which ICT was being used to preserve local indigenous knowledge. The villagers have a traditional jungle sign language based on symbols made from twigs. However, this heritage was being lost as they settled in more permanent locations. Listening to their concerns, ISITI has devised a project using iPad to capture the traditional knowledge and turn into a learning programme for the younger generation. Dr Yeo concluded that modern developments in ICT make Smart Villages a real possibility in even the remotest communities.

Rural Energy Reporting

Leaders Julia Vitullo-Martin, Sharon Schmickle

The next session moved on to practical matters for the journalists—how to develop stories around Smart Villages. Julia Vitullo-Martin and Sharon Schmickle led this from their own personal viewpoint as practising journalists. They began by claiming that with its emphasis on rural energy access and its recognition of fundamental inequalities in the developing world, the Smart Village initiative is inherently intriguing to the media. Yet while it offers a fresh approach to understanding and resolving some of the world's most intractable issues, they also admitted that Smart Villages does not necessarily make for easy coverage. For one thing, rural is nearly always more difficult to cover than urban.

In the media training sessions, the first challenge was thus to engage the journalists in the substance. The second, and more difficult, was to work through the practical problems of finding, reporting, and publishing different stories. The approach both took was to discuss and deconstruct three rural energy stories that had been circulated in advance of the workshop.

The first story, ($60m ADB loan to boost Burma's woeful electricity network, Asian Correspondent.com, Dec. 30, 2013) reported major new financing for delivering electricity in Myanmar. Since some of the participants were from Myanmar, the discussion was immediately energized with local comments, providing an excellent opportunity for examining techniques for taking a regional piece local, pitching it and covering it in a new way. Journalists also discussed opportunities for adding value to such articles and thereby getting better play—especially demonstrating the need for the electricity through compelling anecdotal examples, and quoting local sources beyond those named in the initial press release. They also analysed the use of data in the story and emphasised the importance of verifying data and explaining it clearly.

And because one big international story at the time of the workshop was the plight—human and economic—of refugees from Myanmar, the analysis segued into a tactical debate about how

to use international interest to pitch new topics to major editors.

The second story (Fridges off for Pacquiao fight, New Straits Times, 30 April 2015), reported that residents of the western Philippines had been asked to turn off their refrigerators so there would be enough electricity for everyone to watch the boxing match between local legend Manny Pacquiao and Floyd Mayweather. While this seemed slightly trivial as a news hook for a serious energy story, it turned out to be the perfect hook for lively dialogue about taking the energy story to a level where it would interest a mass audience. Everyone from the Philippines had an on-topic anecdote about the evening of the fight, and every journalist living in an off-the-grid neighborhood or village had a parallel anecdote about the resulting problems, enabling a sophisticated discussion of the many story possibilities for covering under-electrification. The journalists explored ideas for presenting the issue on different levels: regional, national, village, business and household. A lack of reliable data on one level should not block the story altogether, they agreed, but instead prompt a shift to a different level. They exchanged ideas for obtaining data. They also talked about seizing the opportunities to link those stories to newsworthy events in order to reach wider audiences.

The third article (How Solar Can Help Power Nepal's Relief and Recovery Efforts, Huffington Post, May 12, 2015,) provided a direct example of seeking an opportunity to tell the energy story in connection with major international news events. While nearly all Western-financed disaster relief infrastructure relies on gasoline and diesel generators, Nepal made a serious effort to use solar solutions after its devastating 7.8 magnitude earthquake. This article also served as an exercise in finding the human drama embedded in energy needs.

Overall, participants debated how issues of energy, technology, development, entrepreneurship and politics were woven together to engage and interest their readers. They specifically confronted the question of whether they should be doing stories on energy capacity from their own villages, cities, and countries. A Nigerian journalist, for example, said there was pervasive frustration over his wealthy country's lack of energy capacity—especially since Nigeria is a major oil producer. A journalist from the Philippines, which has extraordinarily high energy costs because it imports from Indonesia, commented on pervasive resignation rather than anger at black-outs and lack of capacity. Everyone agreed that it is not easy to pitch or tell these stories, even though they are under covered.

Journalists were encouraged to apply the analytical approach to workshop's energy presentations, for example, to look for news and feature story ideas in Dr Alvin Yeo's lecture. They also were encouraged to explore options for crafting the stories for different audiences, and to consider various sources of information and data that could enrich the stories. The journalistic challenge is to tell the same story in as many ways as possible.

They discussed how these techniques could be employed in bringing the same stories to a local audience, and the similarities and differences in approach that would be needed. Journalists engaged the seismic substantive issues while also comparing their daily problems with recalcitrant editors, hostile public officials, house style, limited resources, inaccessibility, etc.

In Country Examples: Participating Journalists

To further stimulate the journalists the afternoon session started with case studies from three participants who had attended previous Smart Villages events. **Lominda Afedraru** led with two innovative examples from Uganda: the

Yao-Hua Law, SciDev.Net, Malaysia

use of bio gas in schools and rural communities and the used of solar energy for vegetable processing. Gayaza Old Girls High School is in the Wakiso district and about 30km from Kampala and Lominda reported how following a teacher and farm manager initiative, students from Senior Year One go to farms around the school to collect agricultural waste such as vegetables cow dung, piggery slop and urine to process into biogas. This is then used to provide electricity in classrooms as well as for cooking. Lominda had also found an example of a farmer, John Sserwada, in a village close to Kampala who had been inspired by Ugandan scientists to start using animal waste to produce biogas for cooking. She finished by describing how scientists at the National Agricultural Research Organisation (NARO are involved in promoting use of solar panel in Kitgum and Gulu district, the northern part of the country to process indigenous vegetables like cow pea leaves, spider plant, crotalaria ochrolevca (Alayu) and Jute Mallow. Panels are purchased through an association and as well as producing product for sale during the dry season also help retain essential nutrients.

Staying in Africa, **Abdallah el Kurebe** reported on a proto Smart Village in Nigeria. He explained that energy provision is a national scandal in such a resource rich country. Continuous tinkering with power supply infrastructure and distribution network means and investment of close to $20 he claims has only led to darkness. Of Nigeria's 23 hydro plants only 5 are functional and only 1,327MW out of a capacity of 4,800MW is being generated due to plant closures. This has provided enough reasons alone for Nigeria to seek reliable alternatives to mega hydro-powered electricity supply. One of the main ones being considered is off-grid renewable energy. He then showed example of this in the village of Danjawa where the Sokoto Energy Research Centre (SERC) has a solar photovoltaic plant supplying 5.5 KWp and a small mini-hydro power station under construction due to add another 30KWp. Abdallah continued that energy provision is only half the story and the SERC has also developed a whole range of follow on initiatives such as solar street lights, wind turbines, solar thermal meat dryers, water heaters, distillers and cookers, as well as investigating the possible use of cow dung and a spossible biofuel.

Yao-Hua Law, a participant in the Smart Villages SE Asian Workshop held in Kuching in January then presented a case study from there on Thailand's experience of the challenges and benefits of rural electrification he had been

inspired to write about. Usa Boonbumroong and Sumate Tanchareon, both researchers at King Mongkut's University of Technology Thonburi, Thailand believe it is essential to "incubate technical and management capacity within rural communities" to run electricity services. Boonbumroong begins each rural electrification project with comprehensive studies of the community's needs and environment. Twenty years ago, when he was tasked with improving electricity supply to communities in Phu Kradueng National Park, Thailand, his team spent the first year collecting micro-climate data talking to park officers who lived there and forecasting the park's future electricity demand. At that time, tubs of diesel—20,000 litres a year—had to be carried up a 6 km trail. Boonbumroong decided that a hybrid system of solar, wind and diesel generators best suited the park's community. Today, Boonbumroong's hybrid system still powers the park and its communities. Officers were trained to operate and maintain the generators. Sometimes, however, villagers themselves devised innovative solutions out of limited resources, as Boonbumroong discovered in Kiriwong village. The farmers of Kiriwong needed better electricity for cottages in their orchards up in the hills. Diesel generators were costly and unpleasant. As Boonbumroong was surveying the area, he heard of an old man who had built a strange machine: a bicycle wheel and sardine cans were pieced together to make a hydropower generator by a creek. The makeshift generator inspired Boonbumroong. Creeks ran by each cottage, and small hydropower generators less than five kilowatts attached to each cottage would seem the most suitable energy solution for the farmers. Boonbumroong and his team measured the old man's wheel-and-can generator running at 10 per cent efficiency and improved the design. A year later, Boonbumroong installed his pico hydropower generator at the old man's cottage. Villagers gathered to witness the generator harnessing the creek's energy at 50 per cent efficiency. Impressed, the villagers bought the generator for their cottages. Boonbumroong trained the locals to assemble and maintain the generators. The pico hydropower generator, borne out of a local innovation, now generates income for Kiriwong villagers who sell the machine to other villages.

Let's Talk Technologies

Dr Claudia Canales, Smart Villages Initiative

The next session on the current state of renewable off-grid power generation and related technologies was well received, since although the journalists had obviously heard about solar and wind power, they were unaware of how sophisticated the technology has become. Nor had many of them even considered mini-hydro or geothermal, while biofuels were again an area of limited knowledge. Dr Claudia Canales took them through the various current options for powering and equipping a Smart Village as well as drawing on the initiative's links with the world's science academies to reveal some blue-sky research. She first stressed again that Smart Villages is technology "neutral" and although ideally technology choices should be sustainable currently sometimes e.g. a sustainable energy/diesel genset hybrid might be the best immediate option to get a village powered up. Dr Canales then looked at innovation in the main areas. In biomass she sees a drive for more effective biogas production aimed at providing healthier and more efficient cook stoves in particular. Biofuels she noted are now 2 and 3 rd. generation with increasing interest in lignocellulosic types. Solar continues to plummet in costs, a trend that will be accelerated with the new higher efficiency panels such as perovskite and thin film organic, which resembles tin foil and caught the journalists' imagination. Another area to do this was hydro and especially the floating hydro projects the Smart Villages' team had discovered in Borneo.

Dr Canales then moved on to other lesser known energy sources such as geothermal, which is

Dr Claudia Canales, Smart Villages Initiative

increasingly being used in East Africa with great success for power generation and heating. Tidal wave power to use a pun seems to ebb and flow but retains passionate supporters. Noteworthy and perhaps very practical at village level is a resurgence in interest in physical power generation from humans and animals such as treadmills, bicycle dynamos and donkey-driven dynamos. She closed by mentioning, perhaps the most far fetched option currently, but one attracting increasing interest from small islands in particular—ocean heat exchange energy. Storage is a topic that continues to haunt the solar industry and here Dr Canales offered hope through the huge amount of research being devoted to the area, resulting in recent developments by companies such as Tesla. Dr Canales looked at the other end of the problem—energy use and if there are new ways to increase efficiency. Here she listed a range of initiatives including lower power fridges, laptops, TVs etc. LEDs are also a major breakthrough and there is hope that in future they could be used to purify water. Innovative communications technology is helping both improve connectivity and reduce energy use through projects such as Facebook's satellite-based internet.org project and Google's Loon balloon based project.

Finally other means of energy supply and transformative usage were covered such as the development of low voltage DC grids and the increasing sophistication of e-commerce and mobile banking technologies. In conclusion, Dr Canales reminded the journalists that technology is evolving faster than perhaps ever before, and on such a global scale, that is nearly impossible to track fully. Furthermore, much of the technology can, and will, have almost immediate impact on the ground. Dr Canales also pointed out that there is often a dichotomy between local research and research in leading academic centres where researchers have often not considered the rural application of their "high-tech" research and its energy provision needs. She therefore urged the journalists to take this up as a theme and be champions for ensuring universal access to new technologies.

Day 2

After using Day 1 to set the scene and look at renewable energy provision, technologies and reporting challenges, Day 2 started by examining the other pillars of development described in Dr van Gevelt's presentation in more detail, in particular ICT, entrepreneurship and health.

Delivering ICT to Remote Villages

Dr Chong Eng Tan, UNIMAS

The morning started with another presentation highlighting the pioneering work carried out by UNIMAS, Universiti Malaysia Sarawak, in managing the introduction of electrification and related services to rural communities. Dr CE Tan focussed in particular on the obstacles to widespread ICT accessibility in Borneo. To begin with, there are barriers to energy provision in general—physical (location, distances etc) and social (the belief that energy is free, economic literacy). On top of this are additional specific problems with ICT—reach, quality, cost and expectation of universal access. In response, Dr Tan and his colleagues utilise a new approach they have developed called Objective Oriented Design Philosophy (OODP). It has three principles—to deliver Reliability, Sustainability and Mobility. This means working to achieve 7 objectives—reduced system dependency, increased modularity, simpler design, greater portability, local sustainability, improved energy efficiency and meeting clear local needs. As an example of OODP in action, Dr Tan described a recent electrification project in the remote highland area of Long Puah in central Borneo. The project aimed firstly to provide basic electrification via sustainable easy to maintain solar energy to fulfil the daily basic need for lighting for 27 households and a church. It was hoped that this would encourage more social, economic and educational activities after dusk, as well as convincing the community of the value of adopting renewable and green energy on a wider scale to improve their quality of living. Key to proving the value of the initiative to the villagers was to provide lighting systems that were readily transportable and that the household could accurately control and easily maintain. The second aim was to provide reliable universal ICT access for the benefit of the whole community living in disparate villages rather than just to one individual village. This is being delivered through a concept called the Virtual Telecentre. Again an overall appraisal as to the scale of coverage needed led to a novel sustainable solution. A VSAT Internet gateway will be installed that enables individual scattered dwellings and communal buildings to connect the same quality of service provision over a 10 km area via long range wireless relay stations. Work is now ongoing on designing sustainable micro telecentres that maximise Internet coverage possibilities. The aim is to then replicate this model and benefit communities across Borneo and other areas in Malaysia.

Video Presentations

Richard Hayhurst, Smart Villages Initiative

Catalysing Entrepreneurship
Coca-Cola EKOCENTER

Coca-Cola's EKOCENTER video presentation provided a private- sector viewpoint on how energy can catalyse sustainable development and in particular entrepreneurship at the village level. Introducing the video, Richard Hayhurst explained that in a previous workshop in Arusha, the director of the EKOCENTER project, Mr Simon Bartlett had stressed the global reach of companies like Coca-Cola and the scale of private sector financial resources: consequently there is a need to engage the private sector in development (as part of the so-called golden triangle of government, business and civil society). A key premise for Coca-Cola is that a business can do good by doing good business.

Coca-Cola's EKOCENTER, is in essence a 'community centre in a box'. The EKOCENTER is a modular solar-powered kiosk that can be delivered as a 'flat-pack' and is readily assembled. It provides clean drinking water, allows people to connect to the internet and provides a suite of products and services that are determined by each community. There are 25 to 30 EKOCENTERS in operation in five different countries in Africa already, and 1 in Vietnam, and it is intended that scale up beyond that will happen quickly in order to have a transformational impact.

Provisionally, the business model is that the EKOCENTER will be franchised to a female entrepreneur from the local community. She will be trained by Coca-Cola and partners, and will need to generate an operating profit, reinvest and grow. The revenue streams will primarily flow to the kiosk operator and her staff. The presentation itself generated a great deal of interest among the journalists, with a qualified recognition of the positive role industry could play in rural development.

Laying the Foundations of Healthcare: Swasythaya Slate

Swasythaya Slate is a prime example of how the presence of reliable energy supplies and ICT provision can revolutionise healthcare in rural communities. Kanav Kahol's is the Indian inventor and his video presentation introduced the public health situation in India, where, like much of the developing world, there are diverse health issues and insufficient frontline health workers. As a result, Dr Kahol saw the potential for a technological interface to improve the capabilities of frontline health workers. He has produced a diagnostic unit that through a single tablet computer can deliver multiple diagnostic tools. The Swasthya Slate interfaces with Android tablets and mobile phones to conduct up to 33 diagnostic tests, as well as a water quality test. It is designed on a 'plug-and-play' basis and requires relatively little training of healthcare workers to be able to use it effectively.

The Swasthya Slate has the potential to make a major impact on rural communities with poor healthcare access. It is approximately 1/100th the cost of its component diagnostic tools and is expected to further decrease in cost after mass production. The Swasthya Slate stores information in the cloud. with each user being given a registration number, making it easy for clinics and hospitals to access patient data. It will be distributed through nurses in India, and its use of standard protocols should make it easy for them to use.

It can be taken into a remote village. where everyone can be tested and the results transmitted to a doctor. who can decide who needs treatment. An issue is to have enough resources in the data-receiving hospitals. A question was raised about the maintenance of the Slate and correct calibration in operation. The sensor components that send data to the Slate digital platform are standard 'off the shelf', requiring low levels of maintenance and are easily replaced. Their operation can be remotely monitored. These issues have been addressed in the current roll out to tens of thousands of villages in India. Already "tech savvy" themselves in the use of various apps on smart phones and tablets during field reporting, the journalists were quick to see the potential of the Slate and also agreed that similar local solutions will spring up rapidly in their own regions.

Technology Leapfrogging: QuantuMDx

Richard Hayhurst then built on the Slate story by revealing to the journalists just how far technology has advanced into the "Star Trek" age with a presentation on QuantuMDx. This emerging UK company is developing a hand-held battery-powered DNA sequencer

that will be able to sequence an individual's DNA from, for example, a saliva sample in less than 15 minutes. Richard forecast that this could truly democratise healthcare by making the most sophisticated analysis both available and affordable at village level in the developing world. Currently the instrument is being tested for a series of applications to prove its utility. In Africa, it enables different malaria strains to be tested on the spot and ensure the right drugs are prescribed, thus both saving money and avoiding the build up of drug resistance. At the other end of the scale, a trial is also underway looking at characterising individual cancer patient's tumours—increasingly regarded as the key to successful treatment. An interesting discussion then ensued on the current two tier healthcare situation in the developing world, with concerns that only a rich elite will be able to access good healthcare. The advent of technologies and the Slate it was agreed could counter this and help to some extent to democratise healthcare. All of the journalists were keen to follow developments.

Local Case Studies

Lotuslei Dimagiba & Anne Valermo

The two journalists from the Philippines continued with case studies. Lotuslei Dimagiba talked about Alibijaban, an island located in San Andres, Quezon Province, approximately 20 minutes from the mainland. Islands are a key area of interest for the Smart Villages project and Lotuslei illustrated a common issue. Home to about 300 households, all living along the beach front, the Alibijaban community relies on car batteries to power their lights, phones, TVs and fans. Now, however, solar panels have been introduced through a social enterprise and are becoming the island's primary medium for renewable energy. The panels are rentable to the residents who install them on their roofs to generate electricity for their batteries and proving highly popular. Having reliable power will also now help the island develop its ecotourism potential as a DENR protected area for biodiversity conservation. It is a mangrove rich area, with at least 22 species and also 14 species of birds and bats, including the White-collared kingfisher, Large-billed crow, Black-napped oriole, Philippine turtle dove, and fruit bats. A libijaban is under developed in terms of being a tourist destination. According to Lotuslei, plans are now underway to attract birdwatchers and scuba enthusiasts and this is a model that could be repeated throughout the archipelago.

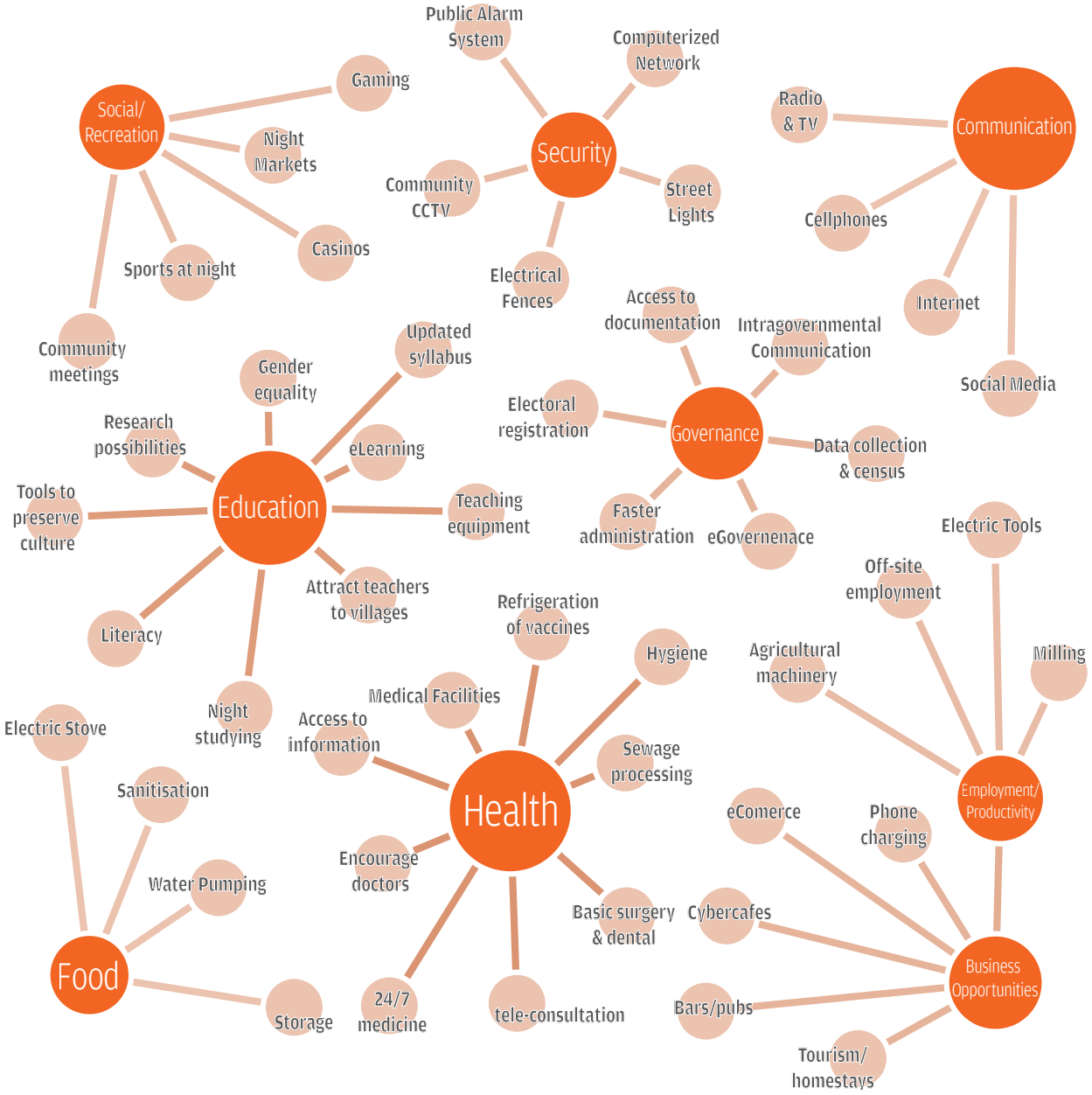
Anna Valermo then described a German social enterprise she has been reporting on for several years whereby bikers in the Philippines under the Ride for Light campaign help distribute solar panels to off-grid areas around the country. The idea is simple: since the Philippines is an archipelago, there are low density remote communities with no access to electricity which have to rely on other means to have light at night—candle, kerosene lamps, etc. The campaign aims to bring solar power as a source for the communities and some of the success stories include kids from a family who have performed well in school after their mother used the solar lamp and bought it (on a long-term payment basis) after seeing how it helped with their education.

Imagining a Smart Village

Facilitator: Yao-Hua Law

At this stage of the programme, it was time to repeat an exercise that had proved a success in the previous workshop in Kigali, namely for the journalists to imagine the benefits of a Smart Village. They were shown infographics based on the Kigali as background, and then journalist Yao-Hua Law volunteered to lead what turned out to be an extremely lively and productive brainstorm. The flipchart was soon covered with ideas which Yao-Hua expertly and succinctly organised into eight main areas—Security, Food, Business, Communication, Social, Governance, Health and Education. These are portrayed in the accompanying graphic, but some of the ideas particularly worth noting are:

- Security: a real belief that both personal and communal security and thus sense of well being could be improved
- Food: major opportunities to improve food production and availability through refrigeration and the use of processing equipment and machinery
- Business opportunities: perhaps because of their youth, the journalists seemed to focus on "new" industries such cybercafés, e-commerce, phone charging, aquaculture, tourism (home stay), bars, pubs rather than traditional.
- Communication: again the journalists saw benefits in the widest possible sense, with the introduction of internet, cell phones, radio/TV stations and, social media all leading to individual empowerment, entrepreneurship and social cohesion
- Social/Recreation: major opportunities were seen to increase social cohesion from night markets and community sports viewing to cock fighting and casinos!
- Governance: again the group were quick to grasp the implications for governance, with ICT enabling E-government with faster documents/admin processing. It was hoped this would also help reduce corruption and overcome a major issue in remote areas of lost documentation.
- Health: health benefits were seen in a holistic manner from improved sanitation through to 24/7 availability of services. Interestingly as with teachers, the journalists thought better facilities would encourage more health workers to work in remote areas. There was also enthusiasm for telemedicine and introduction of the new technologies featured in the morning's presentations.
- Education: better teaching equipment, particularly with e-learning enabling study at night to continuously updated syllabus were regarded as game changing advances. Again though, the journalists had taken on board the lessons of the day, and agreed that e-tools could be used to preserve and educate villagers about indigenous culture. Improved gender equality was only mentioned upon prompting.



Results of the 'Imagining a Smart Village' exercise

Story Ideas

Dr Claudia Canales, Smart Villages Initiative

As the workshop drew to a close, Dr Claudia Canales presented a few ideas of the kind of stories that the Smart Villages team hoped would inspire the journalists by drawing on other events in the initiative over the last year. She reminded them that energy is central to a whole range of topics—food production, education, health, communication, business opportunities, participatory democracy and environmental preservation—in other words a veritable treasure trove. The first example was from a meeting in Cambridge, UK in January on harvesting energy while growing crops which is actually close to being trialled.

The next was on storing solar energy in trees in Ethiopia, followed by using gravity to power a micro turbine in Borneo, along with floating hydro plants that could be moved up and down rivers. She also illustrated a way of covering sustainability by looking at the data from a project in Malaysia that has been installing various renewable energy sources over the last decade and measuring their uptake and performance. Metrics are also a major topic and the journalists were given a preview of a new Smart Villages study in Rwanda which we believe to be the first of its kind looking at the impact of energy provision under a novel Private/Public/Community initiative to remote off-grid villages.

Other controversial areas pointed out were the continued use of fossil fuels for cooking and their impact on health, along with social concerns about the effects of electrification on indigenous communities. There was widespread excitement amongst the journalists and an admission that they had not realised how exciting energy coverage could be. Dr Canales finished by encouraging them to blog and approach the team with ideas worth commissioning.

Concluding Session

Richard Hayhurst, Smart Villages Initiative

Richard Hayhurst closed the workshop, summarising the main discussion points and highlights. He emphasised that the Smart Villages Initiative saw this moment as the start of a long term relationship with the participating journalists, together with colleagues back at their media houses, in continuing to work to bring important rural energy and related stories to national and international attention. In addition, he reinforced the links between the topic and the upcoming new Sustainable Development Goals and COP21. If, as suspected, questions were to be asked about what could be done to help the 'last mile' achieve energy access, Richard encouraged the journalists to refer to the Smart Villages Initiative. With the workshop concluded, the journalists were enthused to write about the need for off-grid solutions in their own countries and to seek out examples of villages on a journey to becoming 'smart'.

"This moment is the start of a long term relationship with the participating journalists.

4. Conclusion & Recommendations

The workshop received similar positive feedback to its forerunner in Rwanda from journalists participating and also from those experts who contributed their time and insights to the discussions. Journalists again confirmed that, whilst they found the topic of off-grid energy access to be one that had definite local resonance, it was not an issue that they had ever heard emphasised, or seen workshops or media engagement on. Similarly, expert practitioners in the area had rarely had the opportunity to engage with the media on their activities, and the economic and development benefits they brought to rural populations.

The Smart Village Initiative team leading the workshop therefore continues to believe that it was correct to include this emphasis on media engagement in the project activity, and that the intention to hold further workshops in South Asia, South America, West Africa and Central America and the Caribbean is justified. The format is also flexible enough to respond to particular local needs and levels of journalistic and technical sophistication.

Working with SciDev.Net and the World Conference of Science Journalists was a qualified success. SciDev.Net were able to identify a number of journalists in a short space of time across most of the region, but were unable to provide contacts in Thailand, Laos or Cambodia. With hindsight perhaps journalists from New Zealand/Australia covering Polynesia and Micronesia should have been targeted along with Fiji and other larger SIDS. The workshop on the first day of the WSJC was also successful, and contacts were built during the actual conference, although again the venue and booth location were not entirely satisfactory.

Building on previous experience, we were able to achieve a good balance between formal learning and interactive aspects. Having few outside presenters physically attending did not appear to have a major impact on the programme. The video presentations used instead were well received. In addition, the introduction of case studies prepared in advance by the attending journalists worked well and should be repeated in future workshops. However, it

Yao-Hua Law, SciDev.Net, Malaysia

would have been useful, as in Rwanda, to have actual demonstrations of solar lights and other products. Another possible addition would be a field trip to a "smart village".

As in East Africa, the journalists also expressed a desire to interact not just with their colleagues in SE Asia, but also those from the other regions in the Smart Villages Initiative. This was reinforced by the presence of two African journalists from the previous workshop. We therefore believe that there is value in bringing journalists from outside the region in question to present relevant Smart Village stories and case studies from their countries in subsequent workshops, and to participate in future media workshops to ensure a cross-fertilisation of ideas and experiences across different regions.

Some practical problems remain in effectively covering rural energy stories, however. In particular, the budgetary constraints under which many media houses place their reporters, mean that it is almost impossible for them to travel up-country to cover stories first-hand. The Smart Villages Initiative therefore undertook to consider how it might allocate a small portion of its funding to support reasonable local travel requests to research relevant stories and case studies, which could then also be featured on the project website.

Overall the Smart Villages Media Dialogue for South East Asia was enthusiastically received. The audience was different to Rwanda. On the whole the journalists were younger, urban and with no personal experience of growing up without electricity. However, they weree aware of and able to relate to the problem in their countries. Their reactions reaffirmed the value and potential impact of the project, and the importance of bringing the issues to wider public and decision-maker attention.

Annex 1: Workshop Programme

Friday, 12 June

0900 **Welcome and Workshop Aims**

0930 **The Smart Village Concept**

Dr Terry van Gevelt, Smart Villages Initiative

1030 **Break**

1100 **Group discussion—Taking Energy for Granted**

Video case study—Terrat Village, Tanzania

1130 **ICT as a Pillar of Development in Remote Rural Communities**

Dr Alvin Yeo, Universiti Malaysia Sarawak

1230 **Lunch**

1400 **Rural Energy Reporting**

Sharon Schmickle, Julia Vitullo-Martin

1430 **Group discussion: In-country Examples**

1530 **Break**

1600 **Let's Talk Technologies**

Dr Claudia Canales-Holzeis, University of Oxford

1730 **Close**

Saturday, 13 June

0900 **Recap of day 1: Technology Leapfrogging benefits**

Richard Hayhurst, Smart Villages Initiative

0945 **Delivering ICT to Remote Villages**

Dr Chong Eng Tan, Universiti Malaysia Sarawak

1030 **Break**

1100 **Video Presentations**

Richard Hayhurst, Smart Villages Initiative

Catalysing Entrepreneurship—Coca-Cola EKOCENTER

Health case study—QUANTUMDX

Video case study—Swasthya Slate, India

1200 **Local journalism case studies**

1300 **Lunch**

1430 **Group Exercise—Imagining a Smart Village**

1530 **Break**

1600 **Story Ideas**

Dr Claudia Canales-Holzeis, University of Oxford

1630 **Concluding Session**

Richard Hayhurst, Smart Villages

1700 **Close**

ANNEX 2: PREPARATORY MATERIAL

Prior to attending the workshop, journalists were provided with the following documents.

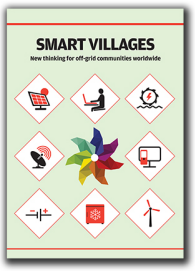
Media Deconstruction Exercise Case Studies


As Technology Entrepreneurs Multiply in Vietnam, So Do Regulations

Off-grid energy reporting case studies: Media on Smart Villages—Presents three recent articles published in mainstream media on issues relevant to off-grid power provision and the Smart Villages. These were used in the training exercises run by Sharon Schmickle and Julia Vitullo-Martin.

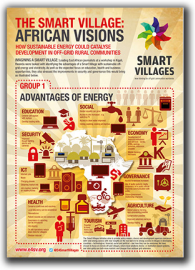
- 'As Technology Entrepreneurs Multiply in Vietnam, So Do Regulations' by MIKE IVES, The New York Times, 8 February 2015
- 'Imagine life without electricity—that's the reality for two-thirds of Africa, and the results are devastating' by Kevin Watkins, The Independent, 5 June 2015
- 'Record boost in new solar power continues massive industry growth' by Arthur Neslen, The Guardian, 9 June 2015

Smart Village Essays



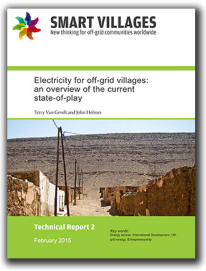
http://e4sv.org/new-thinking

Africa Energy Infographic



http://bit.ly/19n9G03

State of Play Report



http://bit.ly/1HKzLoz

ASEAN Infographic

http://bit.ly/1KrwJ8g

Vision paper

http://bit.ly/1MFFnno

SMART VILLAGES

New thinking for off-grid communities worldwide

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